

BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25  
SEQUENCE LISTING**10/591419**

&lt;110&gt; Bayer CropScience GmbH

<120> Methods for identifying proteins with starch phosphorylating  
enzymatic activity

&lt;130&gt; BCS 04-5001-PCT

&lt;150&gt; EP04090483.1

&lt;151&gt; 2004-12-15

&lt;150&gt; EP04090121.7

&lt;151&gt; 2004-03-29

&lt;150&gt; EP04090087.0

&lt;151&gt; 2004-03-05

&lt;150&gt; US60/549,980 provisional

&lt;151&gt; 2004-03-05

&lt;160&gt; 26

&lt;170&gt; PatentIn version 3.1

&lt;210&gt; 1

&lt;211&gt; 3591

&lt;212&gt; DNA

&lt;213&gt; Arabidopsis thaliana

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(3591)

&lt;223&gt;

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atg	gag	agc	att	ggc	agc	cat	tgt	tgc	agc	tct	cct	ttc	acc	ttc	atc		48
Met	Glu	Ser	Ile	Gly	Ser	His	Cys	Cys	Ser	Ser	Pro	Phe	Thr	Phe	Ile		
1				5					10					15			
act	aga	aac	tca	tca	tca	tca	ctt	cct	aga	ctc	ggt	aac	atc	act	cac		96
Thr	Arg	Asn	Ser	Ser	Ser	Ser	Leu	Pro	Arg	Leu	Val	Asn	Ile	Thr	His		
			20					25					30				
aga	ggt	aat	ctc	agc	cac	caa	tct	cac	cga	ctc	aga	aac	tcc	aat	tct		144
Arg	Val	Asn	Leu	Ser	His	Gln	Ser	His	Arg	Leu	Arg	Asn	Ser	Asn	Ser		
		35					40					45					
cgt	ctc	act	tgc	act	gct	act	tct	tct	tcc	acc	att	gag	gaa	caa	cgg		192
Arg	Leu	Thr	Cys	Thr	Ala	Thr	Ser	Ser	Ser	Thr	Ile	Glu	Glu	Gln	Arg		
	50				55						60						
aag	aag	aaa	gat	gga	tca	gga	acg	aaa	gtg	agg	ttg	aat	gtg	agg	tta		240
Lys	Lys	Lys	Asp	Gly	Ser	Gly	Thr	Lys	Val	Arg	Leu	Asn	Val	Arg	Leu		
65				70					75						80		
gat	cat	caa	ggt	aat	ttt	ggt	gac	cat	gtg	gct	atg	ttt	gga	tca	gct		288
Asp	His	Gln	Val	Asn	Phe	Gly	Asp	His	Val	Ala	Met	Phe	Gly	Ser	Ala		
				85					90					95			
aaa	gag	att	ggt	tca	tgg	aaa	aag	aaa	tcg	cct	ttg	aat	tgg	agt	gag		336
Lys	Glu	Ile	Gly	Ser	Trp	Lys	Lys	Lys	Ser	Pro	Leu	Asn	Trp	Ser	Glu		
			100					105					110				
aat	gga	tgg	ggt	tgt	gag	ttg	gaa	ctt	gac	ggt	ggt	cag	ggt	ttg	gag		384
Asn	Gly	Trp	Val	Cys	Glu	Leu	Glu	Leu	Asp	Gly	Gly	Gln	Val	Leu	Glu		
		115				120						125					
tat	aag	ttt	gtc	att	ggt	aag	aat	gat	ggt	tca	ctt	tca	tgg	gaa	tct		432
Tyr	Lys	Phe	Val	Ile	Val	Lys	Asn	Asp	Gly	Ser	Leu	Ser	Trp	Glu	Ser		
	130					135					140						
ggt	gat	aat	cgt	gtc	ctt	aag	ggt	cca	aat	tct	ggg	aat	ttt	tct	ggt		480
Gly	Asp	Asn	Arg	Val	Leu	Lys	Val	Pro	Asn	Ser	Gly	Asn	Phe	Ser	Val		
145				150						155				160			
ggt	tgt	cat	tgg	gat	gct	act	aga	gaa	acc	ctt	gat	ttg	cct	cag	gag		528
Val	Cys	His	Trp	Asp	Ala	Thr	Arg	Glu	Thr	Leu	Asp	Leu	Pro	Gln	Glu		
				165				170						175			
ggt	ggt	aat	gat	gat	gat	ggt	ggt	gat	ggt	ggg	cat	gag	agg	gat	aat		576
Val	Gly	Asn	Asp	Asp	Asp	Val	Gly	Asp	Gly	Gly	His	Glu	Arg	Asp	Asn		
			180					185					190				
cat	gat	ggt	ggt	gat	gat	aga	gta	gtg	gga	agt	gaa	aat	ggt	gcg	cag		624
His	Asp	Val	Gly	Asp	Asp	Arg	Val	Val	Gly	Ser	Glu	Asn	Gly	Ala	Gln		
		195				200						205					
ctt	cag	aag	agt	aca	ttg	ggt	ggg	caa	tgg	caa	ggt	aaa	gat	gcg	tcc		672
Leu	Gln	Lys	Ser	Thr	Leu	Gly	Gly	Gln	Trp	Gln	Gly	Lys	Asp	Ala	Ser		
	210					215					220						
ttt	atg	cgt	tct	aat	gat	cat	ggt	aac	aga	gaa	ggt	ggt	aga	aat	tgg		720
Phe	Met	Arg	Ser	Asn	Asp	His	Gly	Asn	Arg	Glu	Val	Gly	Arg	Asn	Trp		
225				230						235					240		
gat	act	agt	ggt	ctt	gaa	ggc	aca	gct	ctt	aag	atg	ggt	gag	ggt	gat		768
Asp	Thr	Ser	Gly	Leu	Glu	Gly	Thr	Ala	Leu	Lys	Met	Val	Glu	Gly	Asp		
				245				250						255			
cgc	aac	tct	aag	aac	tgg	tgg	aga	aag	ctt	gaa	atg	gta	cgc	gag	ggt		816
Arg	Asn	Ser	Lys	Asn	Trp	Trp	Arg	Lys	Leu	Glu	Met	Val	Arg	Glu	Val		

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ata	gtt	ggg	agt	gtt	gag	agg	gag	gaa	cga	ttg	aag	gcg	ctc	ata	tac	864
Ile	Val	Gly	Ser	Val	Glu	Arg	Glu	Glu	Arg	Leu	Lys	Ala	Leu	Ile	Tyr	
		275					280					285				
tct	gca	att	tat	ttg	aag	tgg	ata	aac	aca	ggt	cag	att	cct	tgt	ttt	912
Ser	Ala	Ile	Tyr	Leu	Lys	Trp	Ile	Asn	Thr	Gly	Gln	Ile	Pro	Cys	Phe	
	290					295					300					
gaa	gat	gga	ggg	cat	cac	cgt	cca	aac	agg	cat	gcc	gag	att	tcc	aga	960
Glu	Asp	Gly	Gly	His	His	Arg	Pro	Asn	Arg	His	Ala	Glu	Ile	Ser	Arg	
305					310					315					320	
ctt	ata	ttc	cgt	gag	ttg	gag	cac	att	tgc	agt	aag	aaa	gat	gct	act	1008
Leu	Ile	Phe	Arg	Glu	Leu	Glu	His	Ile	Cys	Ser	Lys	Lys	Asp	Ala	Thr	
				325					330					335		
cca	gag	gaa	gtg	ctt	gtt	gct	cgg	aaa	atc	cat	ccg	tgt	tta	cct	tct	1056
Pro	Glu	Glu	Val	Leu	Val	Ala	Arg	Lys	Ile	His	Pro	Cys	Leu	Pro	Ser	
			340					345					350			
ttc	aaa	gca	gag	ttt	act	gca	gct	gtc	cct	cta	act	cgg	att	agg	gac	1104
Phe	Lys	Ala	Glu	Phe	Thr	Ala	Ala	Val	Pro	Leu	Thr	Arg	Ile	Arg	Asp	
		355					360					365				
ata	gcc	cat	cgg	aat	gat	att	cct	cat	gat	ctc	aag	caa	gaa	atc	aag	1152
Ile	Ala	His	Arg	Asn	Asp	Ile	Pro	His	Asp	Leu	Lys	Gln	Glu	Ile	Lys	
	370					375					380					
cat	acg	ata	caa	aat	aag	ctt	cac	cgg	aat	gct	ggt	cca	gaa	gat	cta	1200
His	Thr	Ile	Gln	Asn	Lys	Leu	His	Arg	Asn	Ala	Gly	Pro	Glu	Asp	Leu	
385					390					395					400	
att	gca	aca	gaa	gca	atg	ctt	caa	cga	att	acc	gag	acc	cca	gga	aaa	1248
Ile	Ala	Thr	Glu	Ala	Met	Leu	Gln	Arg	Ile	Thr	Glu	Thr	Pro	Gly	Lys	
				405					410					415		
tat	agt	gga	gac	ttt	gtg	gag	cag	ttt	aaa	ata	ttc	cat	aat	gag	ctt	1296
Tyr	Ser	Gly	Asp	Phe	Val	Glu	Gln	Phe	Lys	Ile	Phe	His	Asn	Glu	Leu	
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aaa	gat	ttc	ttt	aat	gct	gga	agt	ctc	act	gaa	cag	ctt	gat	tct	atg	1344
Lys	Asp	Phe	Phe	Asn	Ala	Gly	Ser	Leu	Thr	Glu	Gln	Leu	Asp	Ser	Met	
		435				440						445				
aaa	att	tct	atg	gat	gat	aga	ggt	ctt	tct	gcg	ctc	aat	ttg	ttt	ttt	1392
Lys	Ile	Ser	Met	Asp	Asp	Arg	Gly	Leu	Ser	Ala	Leu	Asn	Leu	Phe	Phe	
	450					455					460					
gaa	tgt	aaa	aag	cgc	ctt	gac	aca	tca	gga	gaa	tca	agc	aat	gtt	ttg	1440
Glu	Cys	Lys	Lys	Arg	Leu	Asp	Thr	Ser	Gly	Glu	Ser	Ser	Asn	Val	Leu	
465					470					475					480	
gag	ttg	att	aaa	acc	atg	cat	tct	cta	gct	tct	tta	aga	gaa	aca	att	1488
Glu	Leu	Ile	Lys	Thr	Met	His	Ser	Leu	Ala	Ser	Leu	Arg	Glu	Thr	Ile	
				485					490					495		
ata	aag	gaa	ctt	aat	agc	ggc	ttg	cga	aat	gat	gct	cct	gat	act	gcc	1536
Ile	Lys	Glu	Leu	Asn	Ser	Gly	Leu	Arg	Asn	Asp	Ala	Pro	Asp	Thr	Ala	
			500					505					510			
att	gca	atg	cgc	cag	aag	tgg	cgc	ctt	tgt	gag	atc	ggc	ctc	gag	gac	1584
Ile	Ala	Met	Arg	Gln	Lys	Trp	Arg	Leu	Cys	Glu	Ile	Gly	Leu	Glu	Asp	
		515					520					525				
tac	ttt	ttt	gtt	cta	cta	agc	aga	ttc	ctc	aat	gct	ctt	gaa	act	atg	1632
Tyr	Phe	Phe	Val	Leu	Leu	Ser	Arg	Phe	Leu	Asn	Ala	Leu	Glu	Thr	Met	

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530	535	540	
gga gga gct gat caa ctg gca aaa gat gtg gga tca aga aac gtt gcc Gly Gly Ala Asp Gln Leu Ala Lys Asp Val Gly Ser Arg Asn Val Ala 545 550 555 560	1680		
tca tgg aat gat cca cta gat gct ttg gtg ttg ggt gtt cac caa gta Ser Trp Asn Asp Pro Leu Asp Ala Leu Val Leu Gly Val His Gln Val 565 570 575	1728		
ggt cta tct ggt tgg aag caa gaa gaa tgt tta gcc att gga aat gaa Gly Leu Ser Gly Trp Lys Gln Glu Glu Cys Leu Ala Ile Gly Asn Glu 580 585 590	1776		
ctc ctt gct tgg cga gaa agg gac cta ctt gaa aaa gaa ggg gaa gag Leu Leu Ala Trp Arg Glu Arg Asp Leu Leu Glu Lys Glu Gly Glu Glu 595 600 605	1824		
gat gga aaa aca att tgg gcc atg agg ctg aaa gca act ctt gat cga Asp Gly Lys Thr Ile Trp Ala Met Arg Leu Lys Ala Thr Leu Asp Arg 610 615 620	1872		
gca cgc aga tta aca gca gaa tat tct gat ttg ctt ctt caa ata ttt Ala Arg Arg Leu Thr Ala Glu Tyr Ser Asp Leu Leu Leu Gln Ile Phe 625 630 635 640	1920		
cct cct aat gtg gag att tta gga aaa gct cta gga att cca gag aat Pro Pro Asn Val Glu Ile Leu Gly Lys Ala Leu Gly Ile Pro Glu Asn 645 650 655	1968		
agt gtc aag acc tat aca gaa gca gag att cgt gct gga att att ttc Ser Val Lys Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Ile Phe 660 665 670	2016		
cag atc tca aag ctc tgc act gtt ctt cta aaa gct gta aga aat tca Gln Ile Ser Lys Leu Cys Thr Val Leu Leu Lys Ala Val Arg Asn Ser 675 680 685	2064		
ctt ggt tct gag ggc tgg gat gtc gtt gta cct gga tcg acg tct ggg Leu Gly Ser Glu Gly Trp Asp Val Val Val Pro Gly Ser Thr Ser Gly 690 695 700	2112		
aca tta gtt cag gtt gag agc att gtt ccg gga tca ttg cca gca act Thr Leu Val Gln Val Glu Ser Ile Val Pro Gly Ser Leu Pro Ala Thr 705 710 715 720	2160		
tct ggt ggt cct att att ctc ttg gtc aat aaa gct gat ggc gat gaa Ser Gly Gly Pro Ile Ile Leu Leu Val Asn Lys Ala Asp Gly Asp Glu 725 730 735	2208		
gag gta agt gct gct aat ggg aac ata gct gga gtc atg ctt ctg cag Glu Val Ser Ala Ala Asn Gly Asn Ile Ala Gly Val Met Leu Leu Gln 740 745 750	2256		
gag ctg cct cac ttg tct cac ctt ggc gtt aga gcg cgg cag gag aaa Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu Lys 755 760 765	2304		
att gtc ttt gtg aca tgt gat gat gat gac aag gtt gct gat ata cga Ile Val Phe Val Thr Cys Asp Asp Asp Asp Lys Val Ala Asp Ile Arg 770 775 780	2352		
cga ctt gtg gga aaa ttt gtg agg ttg gaa gca tct cca agt cat gtg Arg Leu Val Gly Lys Phe Val Arg Leu Glu Ala Ser Pro Ser His Val 785 790 795 800	2400		
aat ctg ata ctt tca act gag ggt agg agt cgc act tcc aaa tcc agt Asn Leu Ile Leu Ser Thr Glu Gly Arg Ser Arg Thr Ser Lys Ser Ser 805 810 815 820	2448		

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gcg acc aaa aaa acg gat aag aac agc tta tct aag aaa aaa aca gat	2496
Ala Thr Lys Lys Thr Asp Lys Asn Ser Leu Ser Lys Lys Lys Thr Asp	
820 825 830	
aag aag agc tta tct atc gat gat gaa gaa tca aag cct ggt tcc tca	2544
Lys Lys Ser Leu Ser Ile Asp Asp Glu Glu Ser Lys Pro Gly Ser Ser	
835 840 845	
tct tcc aat agc ctc ctt tac tct tcc aag gat atc cct agt gga gga	2592
Ser Ser Asn Ser Leu Leu Tyr Ser Ser Lys Asp Ile Pro Ser Gly Gly	
850 855 860	
atc ata gca ctt gct gat gca gat gta cca act tct ggt tca aaa tct	2640
Ile Ile Ala Leu Ala Asp Ala Asp Val Pro Thr Ser Gly Ser Lys Ser	
865 870 875 880	
gct gca tgt ggt ctt ctt gca tct tta gca gaa gcc tct agt aaa gtg	2688
Ala Ala Cys Gly Leu Leu Ala Ser Leu Ala Glu Ala Ser Ser Lys Val	
885 890 895	
cac agc gaa cac gga gtt ccg gca tca ttt aag gtt cca act gga gtt	2736
His Ser Glu His Gly Val Pro Ala Ser Phe Lys Val Pro Thr Gly Val	
900 905 910	
gtc ata cct ttt gga tcg atg gaa tta gct tta aag caa aat aat tcg	2784
Val Ile Pro Phe Gly Ser Met Glu Leu Ala Leu Lys Gln Asn Asn Ser	
915 920 925	
gaa gaa aag ttt gcg tct ttg cta gaa aaa cta gaa acc gcc aga cct	2832
Glu Glu Lys Phe Ala Ser Leu Leu Glu Lys Leu Glu Thr Ala Arg Pro	
930 935 940	
gag ggt ggt gag cta gac gac ata tgt gac cag atc cat gaa gtg atg	2880
Glu Gly Gly Glu Leu Asp Asp Ile Cys Asp Gln Ile His Glu Val Met	
945 950 955 960	
aaa acg ttg caa gtg cct aaa gaa aca atc aac agc ata agc aaa gcg	2928
Lys Thr Leu Gln Val Pro Lys Glu Thr Ile Asn Ser Ile Ser Lys Ala	
965 970 975	
ttt ctc aaa gat gct cgt ctc att gtt cgt tca agt gct aac gtc gag	2976
Phe Leu Lys Asp Ala Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu	
980 985 990	
gac tta gcc gga atg tca gct gca gga ctc tat gaa tca atc cct aac	3024
Asp Leu Ala Gly Met Ser Ala Ala Gly Leu Tyr Glu Ser Ile Pro Asn	
995 1000 1005	
gtg agt ccc tcg gat cct ttg gtg ttt tca gat tcg gtt tgc caa	3069
Val Ser Pro Ser Asp Pro Leu Val Phe Ser Asp Ser Val Cys Gln	
1010 1015 1020	
gtt tgg gct tct ctc tac aca aga aga gct gtt cta agc cgt aga	3114
Val Trp Ala Ser Leu Tyr Thr Arg Arg Ala Val Leu Ser Arg Arg	
1025 1030 1035	
gct gct ggt gtc tct caa aga gaa gct tca atg gct gtt ctc gtt	3159
Ala Ala Gly Val Ser Gln Arg Glu Ala Ser Met Ala Val Leu Val	
1040 1045 1050	
caa gaa atg ctt tcg ccg gac tta tca ttc gtt ctg cac aca gtg	3204
Gln Glu Met Leu Ser Pro Asp Leu Ser Phe Val Leu His Thr Val	
1055 1060 1065	
agt cca gct gat ccg gac agt aac ctt gtg gaa gcc gag atc gct	3249
Ser Pro Ala Asp Pro Asp Ser Asn Leu Val Glu Ala Glu Ile Ala	

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1070	cct ggt tta ggt gag act tta gct tca gga aca aga gga aca cca	1075	1080	3294
	Pro Gly Leu Gly Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro			
1085		1090	1095	
1100	tgg aga ctc gct tcg ggt aag ctc gac ggg att gta caa acc tta	1105	1110	3339
	Trp Arg Leu Ala Ser Gly Lys Leu Asp Gly Ile Val Gln Thr Leu			
1115		1120	1125	3384
	gct ttc gca aac ttc agc gaa gag ctt ctt gtg tca gga aca ggt			
1130	Ala Phe Ala Asn Phe Ser Glu Glu Leu Leu Val Ser Gly Thr Gly			
1135		1140		3429
	cct gct gat gga aaa tac gtt cgg ttg acc gtg gac tat agc aaa			
1145	Pro Ala Asp Gly Lys Tyr Val Arg Leu Thr Val Asp Tyr Ser Lys			
1150		1155		3474
	aaa cgt tta act gtt gac tcg gtg ttt aga cag cag ctc ggt cag			
1160	Lys Arg Leu Thr Val Asp Ser Val Phe Arg Gln Gln Leu Gly Gln			
1165		1170		3519
	aga ctc ggt tcg gtt ggt ttc ttc ttg gaa aga aac ttt ggc tgt			
1175	Arg Leu Gly Ser Val Gly Phe Phe Leu Glu Arg Asn Phe Gly Cys			
1180		1185		3564
	gct caa gac gtt gaa ggt tgt ttg gtt ggt gaa gat gtt tac att			
1190	Ala Gln Asp Val Glu Gly Cys Leu Val Gly Glu Asp Val Tyr Ile			
1195				3591
	ggt cag tca agg cca caa cct ctg tag			
	Val Gln Ser Arg Pro Gln Pro Leu			

&lt;210&gt; 2

&lt;211&gt; 1196

&lt;212&gt; PRT

&lt;213&gt; Arabidopsis thaliana

&lt;400&gt; 2

Met Glu Ser Ile Gly Ser His Cys Cys Ser Ser Pro Phe Thr Phe Ile  
1 5 10 15

Thr Arg Asn Ser Ser Ser Ser Leu Pro Arg Leu Val Asn Ile Thr His  
20 25 30

Arg Val Asn Leu Ser His Gln Ser His Arg Leu Arg Asn Ser Asn Ser  
35 40 45

Arg Leu Thr Cys Thr Ala Thr Ser Ser Ser Thr Ile Glu Glu Gln Arg  
50 55 60

Lys Lys Lys Asp Gly Ser Gly Thr Lys Val Arg Leu Asn Val Arg Leu  
65 70 75 80

Asp His Gln Val Asn Phe Gly Asp His Val Ala Met Phe Gly Ser Ala



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85

90

95

Lys Glu Ile Gly Ser Trp Lys Lys Lys Ser Pro Leu Asn Trp Ser Glu  
 100 105 110

Asn Gly Trp Val Cys Glu Leu Glu Leu Asp Gly Gly Gln Val Leu Glu  
 115 120 125

Tyr Lys Phe Val Ile Val Lys Asn Asp Gly Ser Leu Ser Trp Glu Ser  
 130 135 140

Gly Asp Asn Arg Val Leu Lys Val Pro Asn Ser Gly Asn Phe Ser Val  
 145 150 155 160

Val Cys His Trp Asp Ala Thr Arg Glu Thr Leu Asp Leu Pro Gln Glu  
 165 170 175

Val Gly Asn Asp Asp Asp Val Gly Asp Gly Gly His Glu Arg Asp Asn  
 180 185 190

His Asp Val Gly Asp Asp Arg Val Val Gly Ser Glu Asn Gly Ala Gln  
 195 200 205

Leu Gln Lys Ser Thr Leu Gly Gly Gln Trp Gln Gly Lys Asp Ala Ser  
 210 215 220

Phe Met Arg Ser Asn Asp His Gly Asn Arg Glu Val Gly Arg Asn Trp  
 225 230 235 240

Asp Thr Ser Gly Leu Glu Gly Thr Ala Leu Lys Met Val Glu Gly Asp  
 245 250 255

Arg Asn Ser Lys Asn Trp Trp Arg Lys Leu Glu Met Val Arg Glu Val  
 260 265 270

Ile Val Gly Ser Val Glu Arg Glu Glu Arg Leu Lys Ala Leu Ile Tyr  
 275 280 285

Ser Ala Ile Tyr Leu Lys Trp Ile Asn Thr Gly Gln Ile Pro Cys Phe  
 290 295 300

Glu Asp Gly Gly His His Arg Pro Asn Arg His Ala Glu Ile Ser Arg  
 305 310 315 320

Leu Ile Phe Arg Glu Leu Glu His Ile Cys Ser Lys Lys Asp Ala Thr  
 325 330 335

Pro Glu Glu Val Leu Val Ala Arg Lys Ile His Pro Cys Leu Pro Ser  
 340 345 350

phe Lys Ala Glu Phe Thr Ala Ala Val Pro Leu Thr Arg Ile Arg Asp

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 355 360 365

Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys  
 370 375 380

His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu  
 385 390 395 400

Ile Ala Thr Glu Ala Met Leu Gln Arg Ile Thr Glu Thr Pro Gly Lys  
 405 410 415

Tyr Ser Gly Asp Phe Val Glu Gln Phe Lys Ile Phe His Asn Glu Leu  
 420 425 430

Lys Asp Phe Phe Asn Ala Gly Ser Leu Thr Glu Gln Leu Asp Ser Met  
 435 440 445

Lys Ile Ser Met Asp Asp Arg Gly Leu Ser Ala Leu Asn Leu Phe Phe  
 450 455 460

Glu Cys Lys Lys Arg Leu Asp Thr Ser Gly Glu Ser Ser Asn Val Leu  
 465 470 475 480

Glu Leu Ile Lys Thr Met His Ser Leu Ala Ser Leu Arg Glu Thr Ile  
 485 490 495

Ile Lys Glu Leu Asn Ser Gly Leu Arg Asn Asp Ala Pro Asp Thr Ala  
 500 505 510

Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp  
 515 520 525

Tyr Phe Phe Val Leu Leu Ser Arg Phe Leu Asn Ala Leu Glu Thr Met  
 530 535 540

Gly Gly Ala Asp Gln Leu Ala Lys Asp Val Gly Ser Arg Asn Val Ala  
 545 550 555 560

Ser Trp Asn Asp Pro Leu Asp Ala Leu Val Leu Gly Val His Gln Val  
 565 570 575

Gly Leu Ser Gly Trp Lys Gln Glu Glu Cys Leu Ala Ile Gly Asn Glu  
 580 585 590

Leu Leu Ala Trp Arg Glu Arg Asp Leu Leu Glu Lys Glu Gly Glu Glu  
 595 600 605

Asp Gly Lys Thr Ile Trp Ala Met Arg Leu Lys Ala Thr Leu Asp Arg  
 610 615 620

Ala Arg Arg Leu Thr Ala Glu Tyr Ser Asp Leu Leu Leu Gln Ile Phe



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 625 630 635 640

Pro Pro Asn Val Glu Ile Leu Gly Lys Ala Leu Gly Ile Pro Glu Asn  
 645 650 655

Ser Val Lys Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Ile Phe  
 660 665 670

Gln Ile Ser Lys Leu Cys Thr Val Leu Leu Lys Ala Val Arg Asn Ser  
 675 680 685

Leu Gly Ser Glu Gly Trp Asp Val Val Val Pro Gly Ser Thr Ser Gly  
 690 695 700

Thr Leu Val Gln Val Glu Ser Ile Val Pro Gly Ser Leu Pro Ala Thr  
 705 710 715 720

Ser Gly Gly Pro Ile Ile Leu Leu Val Asn Lys Ala Asp Gly Asp Glu  
 725 730 735

Glu Val Ser Ala Ala Asn Gly Asn Ile Ala Gly Val Met Leu Leu Gln  
 740 745 750

Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu Lys  
 755 760 765

Ile Val Phe Val Thr Cys Asp Asp Asp Asp Lys Val Ala Asp Ile Arg  
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Arg Leu Val Gly Lys Phe Val Arg Leu Glu Ala Ser Pro Ser His Val  
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Asn Leu Ile Leu Ser Thr Glu Gly Arg Ser Arg Thr Ser Lys Ser Ser  
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Ala Thr Lys Lys Thr Asp Lys Asn Ser Leu Ser Lys Lys Lys Thr Asp  
 820 825 830

Lys Lys Ser Leu Ser Ile Asp Asp Glu Glu Ser Lys Pro Gly Ser Ser  
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Ser Ser Asn Ser Leu Leu Tyr Ser Ser Lys Asp Ile Pro Ser Gly Gly  
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Ile Ile Ala Leu Ala Asp Ala Asp Val Pro Thr Ser Gly Ser Lys Ser  
 865 870 875 880

Ala Ala Cys Gly Leu Leu Ala Ser Leu Ala Glu Ala Ser Ser Lys Val  
 885 890 895

His Ser Glu His Gly Val Pro Ala Ser Phe Lys Val Pro Thr Gly Val

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900 905 910

Val Ile Pro Phe Gly Ser Met Glu Leu Ala Leu Lys Gln Asn Asn Ser  
915 920 925

Glu Glu Lys Phe Ala Ser Leu Leu Glu Lys Leu Glu Thr Ala Arg Pro  
930 935 940

Glu Gly Gly Glu Leu Asp Asp Ile Cys Asp Gln Ile His Glu Val Met  
945 950 955 960

Lys Thr Leu Gln Val Pro Lys Glu Thr Ile Asn Ser Ile Ser Lys Ala  
965 970 975

Phe Leu Lys Asp Ala Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu  
980 985 990

Asp Leu Ala Gly Met Ser Ala Ala Gly Leu Tyr Glu Ser Ile Pro Asn  
995 1000 1005

Val Ser Pro Ser Asp Pro Leu Val Phe Ser Asp Ser Val Cys Gln  
1010 1015 1020

Val Trp Ala Ser Leu Tyr Thr Arg Arg Ala Val Leu Ser Arg Arg  
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Ala Ala Gly Val Ser Gln Arg Glu Ala Ser Met Ala Val Leu Val  
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Gln Glu Met Leu Ser Pro Asp Leu Ser Phe Val Leu His Thr Val  
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Ser Pro Ala Asp Pro Asp Ser Asn Leu Val Glu Ala Glu Ile Ala  
1070 1075 1080

Pro Gly Leu Gly Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro  
1085 1090 1095

Trp Arg Leu Ala Ser Gly Lys Leu Asp Gly Ile Val Gln Thr Leu  
1100 1105 1110

Ala Phe Ala Asn Phe Ser Glu Glu Leu Leu Val Ser Gly Thr Gly  
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Pro Ala Asp Gly Lys Tyr Val Arg Leu Thr Val Asp Tyr Ser Lys  
1130 1135 1140

Lys Arg Leu Thr Val Asp Ser Val Phe Arg Gln Gln Leu Gly Gln  
1145 1150 1155

Arg Leu Gly Ser Val Gly Phe Phe Leu Glu Arg Asn Phe Gly Cys

BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25  
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Ala Gln Asp Val Glu Gly Cys Leu Val Gly Glu Asp Val Tyr Ile  
 1175 1180 1185

Val Gln Ser Arg Pro Gln Pro Leu  
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<212> DNA

<213> Oryza sativa

<220>

<221> CDS

<222> (13)..(3633)

<223>

<400> 3

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 Gly Gly Arg Pro Arg Arg Gly Leu Val Leu Pro Pro Pro Gly Val Gly  
 15 20 25

gcg ggt gtg ctg ctc cgc cgg gga gcg atg gcg ctc cct ggg cgg cgc 147  
 Ala Gly Val Leu Leu Arg Arg Gly Ala Met Ala Leu Pro Gly Arg Arg  
 30 35 40 45

ggc ttc gcg tgc cgc ggg aga tcc gcg gcc tcg gcg gca gag aga aca 195  
 Gly Phe Ala Cys Arg Gly Arg Ser Ala Ala Ser Ala Ala Glu Arg Thr  
 50 55 60

aag gag aaa aag aga aga gat tct tca aag cag cca ttg gtg cat ctc 243  
 Lys Glu Lys Lys Arg Arg Asp Ser Ser Lys Gln Pro Leu Val His Leu  
 65 70 75

cag gtt tgt cta gag cac cag gtt aag ttt ggt gag cat gta ggc att 291  
 Gln Val Cys Leu Glu His Gln Val Lys Phe Gly Glu His Val Gly Ile  
 80 85 90

atc ggt tcc aca aag gag ctt ggt tca tgg gag gag cag gtt gaa ctg 339  
 Ile Gly Ser Thr Lys Glu Leu Gly Ser Trp Glu Glu Gln Val Glu Leu  
 95 100 105

gaa tgg act aca aat ggt tgg gtc tgc cag ctt aag ctc cct gga gaa 387  
 Glu Trp Thr Thr Asn Gly Trp Val Cys Gln Leu Lys Leu Pro Gly Glu  
 110 115 120 125

aca ctt gtg gag ttt aaa ttt gtt ata ttt ttg gtg gga gga aaa gat 435  
 Thr Leu Val Glu Phe Lys Phe Val Ile Phe Leu Val Gly Gly Lys Asp  
 130 135 140

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aaa ata tgg gaa gat ggt aat aac cgt gtt gtt gag ctg ccg aag gat	483
Lys Ile Trp Glu Asp Gly Asn Asn Arg Val Val Glu Leu Pro Lys Asp	
145 150 155	
ggt aag ttt gat ata gta tgc cac tgg aat aga aca gaa gag cca tta	531
Gly Lys Phe Asp Ile Val Cys His Trp Asn Arg Thr Glu Glu Pro Leu	
160 165 170	
gaa ctt tta gga aca cca aag ttt gag ttg gtc gga gaa gct gaa aag	579
Glu Leu Leu Gly Thr Pro Lys Phe Glu Leu Val Gly Glu Ala Glu Lys	
175 180 185	
aat act ggc gag gat gct tca gca tct gta act ttt gca cct gaa aaa	627
Asn Thr Gly Glu Asp Ala Ser Ala Ser Val Thr Phe Ala Pro Glu Lys	
190 195 200 205	
gtt caa gat att tca gtt gtt gag aat ggt gat cca gca cca gag gcc	675
Val Gln Asp Ile Ser Val Val Glu Asn Gly Asp Pro Ala Pro Glu Ala	
210 215 220	
gag tca agc aaa ttt ggt ggg caa tgg caa gga agt aaa act gtt ttc	723
Glu Ser Ser Lys Phe Gly Gly Gln Trp Gln Gly Ser Lys Thr Val Phe	
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Met Arg Ser Asn Glu His Leu Asn Lys Glu Ala Asp Arg Met Trp Asp	
240 245 250	
aca act ggc ctt gat gga ata gca ctg aaa ctg gtg gag ggc gat aaa	819
Thr Thr Gly Leu Asp Gly Ile Ala Leu Lys Leu Val Glu Gly Asp Lys	
255 260 265	
gca tcc agg aac tgg tgg cgg aag tta gag gtt gtt cgc ggg ata ttg	867
Ala Ser Arg Asn Trp Trp Arg Lys Leu Glu Val Val Arg Gly Ile Leu	
270 275 280 285	
tca gaa tct ttt gat gac cag agt cgt ctg ggg gcc ctt gta tac tca	915
Ser Glu Ser Phe Asp Asp Gln Ser Arg Leu Gly Ala Leu Val Tyr Ser	
290 295 300	
gct att tat ctg aag tgg att tat aca ggt cag ata tcg tgc ttt gaa	963
Ala Ile Tyr Leu Lys Trp Ile Tyr Thr Gly Gln Ile Ser Cys Phe Glu	
305 310 315	
gat ggt ggc cac cat cgg cct aac aaa cat gct gag ata tcg agg caa	1011
Asp Gly Gly His His Arg Pro Asn Lys His Ala Glu Ile Ser Arg Gln	
320 325 330	
ata ttc cgt gaa ctt gaa atg atg tat tat ggg aaa acc aca tca gcc	1059
Ile Phe Arg Glu Leu Glu Met Met Tyr Tyr Gly Lys Thr Thr Ser Ala	
335 340 345	
aag gat gtt ctc gtg att cgc aaa att cat ccc ttt tta cct tca ttt	1107
Lys Asp Val Leu Val Ile Arg Lys Ile His Pro Phe Leu Pro Ser Phe	
350 355 360 365	
aag tca gag ttt aca gcc tct gtc cct cta aca cga att cgt gat att	1155
Lys Ser Glu Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg Asp Ile	
370 375 380	
gct cac cgg aat gac atc cca cat gat ctc aag caa gaa atc aag cat	1203
Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys His	
385 390 395	
act ata caa aac aaa ctt cat cgt aat gct gga cct gag gat ctt att	1251
Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu Ile	
400 405 410	

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agt	gaa	aca	ttt	gtt	gaa	caa	ttc	acg	ata	ttt	tat	agc	gaa	cta	aaa		1347
Ser	Glu	Thr	Phe	Val	Glu	Gln	Phe	Thr	Ile	Phe	Tyr	Ser	Glu	Leu	Lys		
430					435					440					445		
gat	ttc	ttc	aat	gct	ggc	agc	cta	ttt	gag	caa	ctg	gag	tcc	atc	aag		1395
Asp	Phe	Phe	Asn	Ala	Gly	Ser	Leu	Phe	Glu	Gln	Leu	Glu	Ser	Ile	Lys		
				450					455					460			
gaa	tct	ctg	aac	gag	tca	ggc	tta	gaa	gtt	ctc	tca	tcc	ttt	gtg	gaa		1443
Glu	Ser	Leu	Asn	Glu	Ser	Gly	Leu	Glu	Val	Leu	Ser	Ser	Phe	Val	Glu		
			465					470					475				
acc	aaa	agg	agt	ttg	gac	caa	gtg	gat	cat	gca	gaa	gat	ttg	gat	aaa		1491
Thr	Lys	Arg	Ser	Leu	Asp	Gln	Val	Asp	His	Ala	Glu	Asp	Leu	Asp	Lys		
		480					485					490					
aat	gat	acc	att	caa	att	ttg	atg	act	acc	ttg	caa	tca	tta	tct	tct		1539
Asn	Asp	Thr	Ile	Gln	Ile	Leu	Met	Thr	Thr	Leu	Gln	Ser	Leu	Ser	Ser		
		495				500					505						
cta	aga	tcg	gtt	cta	atg	aag	ggc	ctt	gaa	agt	ggc	ctt	aga	aat	gat		1587
Leu	Arg	Ser	Val	Leu	Met	Lys	Gly	Leu	Glu	Ser	Gly	Leu	Arg	Asn	Asp		
510					515					520					525		
gcg	cct	gat	aat	gct	ata	gca	atg	cga	caa	aag	tgg	cgc	ctt	tgt	gaa		1635
Ala	Pro	Asp	Asn	Ala	Ile	Ala	Met	Arg	Gln	Lys	Trp	Arg	Leu	Cys	Glu		
				530					535					540			
att	agt	ctt	gag	gat	tat	tca	ttt	gtt	ctg	tta	agc	aga	ttc	atc	aat		1683
Ile	Ser	Leu	Glu	Asp	Tyr	Ser	Phe	Val	Leu	Leu	Ser	Arg	Phe	Ile	Asn		
			545					550					555				
act	ctt	gaa	gcc	tta	ggc	gga	tca	gct	tca	ctt	gca	aag	gat	gta	gct		1731
Thr	Leu	Glu	Ala	Leu	Gly	Gly	Ser	Ala	Ser	Leu	Ala	Lys	Asp	Val	Ala		
		560				565						570					
aga	aat	act	act	cta	tgg	gat	act	act	ctt	gat	gcc	ctt	gtc	att	ggc		1779
Arg	Asn	Thr	Thr	Leu	Trp	Asp	Thr	Thr	Leu	Asp	Ala	Leu	Val	Ile	Gly		
		575				580					585						
atc	aat	caa	gtt	agc	ttt	tca	ggc	tgg	aaa	aca	gat	gaa	tgt	att	gcc		1827
Ile	Asn	Gln	Val	Ser	Phe	Ser	Gly	Trp	Lys	Thr	Asp	Glu	Cys	Ile	Ala		
590					595					600					605		
ata	ggg	aat	gag	att	ctt	tcc	tgg	aag	caa	aaa	ggc	cta	tct	gaa	agt		1875
Ile	Gly	Asn	Glu	Ile	Leu	Ser	Trp	Lys	Gln	Lys	Gly	Leu	Ser	Glu	Ser		
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gaa	ggc	tgt	gaa	gat	ggg	aaa	tat	att	tgg	tca	cta	aga	ctt	aaa	gct		1923
Glu	Gly	Cys	Glu	Asp	Gly	Lys	Tyr	Ile	Trp	Ser	Leu	Arg	Leu	Lys	Ala		
			625					630				635					
aca	ctg	gac	aga	gca	cgg	aga	tta	acg	gaa	gag	tac	tct	gaa	gca	ctt		1971
Thr	Leu	Asp	Arg	Ala	Arg	Arg	Leu	Thr	Glu	Glu	Tyr	Ser	Glu	Ala	Leu		
		640					645					650					
ctt	tct	ata	ttc	cct	gaa	aaa	gta	atg	gtt	att	ggg	aaa	gcc	ctt	gga		2019
Leu	Ser	Ile	Phe	Pro	Glu	Lys	Val	Met	Val	Ile	Gly	Lys	Ala	Leu	Gly		
		655				660					665						
ata	cca	gat	aac	agt	gtg	aga	act	tac	aca	gag	gca	gaa	att	cgt	gct		2067
Ile	Pro	Asp	Asn	Ser	Val	Arg	Thr	Tyr	Thr	Glu	Ala	Glu	Ile	Arg	Ala		
670					675					680					685		

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Gly Ile Val Phe Gln Val Ser Lys Leu Cys Thr Val Leu Gln Lys Ala																	
	690							695									
att cga gaa gta ctt gga tca act ggc tgg gat gtt ctt gtt cct gga	2163																
Ile Arg Glu Val Leu Gly Ser Thr Gly Trp Asp Val Leu Val Pro Gly																	
	705							710									
gtg gcc cat gga act ctg atg cgg gtg gaa aga att ctt cct gga tca	2211																
Val Ala His Gly Thr Leu Met Arg Val Glu Arg Ile Leu Pro Gly Ser																	
	720							725									
tta cct tca tct gtc aaa gaa cct gtg gtt cta att gta gat aag gct	2259																
Leu Pro Ser Ser Val Lys Glu Pro Val Val Leu Ile Val Asp Lys Ala																	
	735							740									
gat gga gat gaa gag gtc aaa gct gct ggg gat aat ata gtt ggt gtt	2307																
Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val Gly Val																	
	750							755									
att ctt ctt cag gaa cta cct cac ctt tca cat ctt ggt gtt aga gct	2355																
Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala																	
	770							775									
cgt caa gag aat gtt gta ttt gta act tgt gaa tat gat gac aca gtt	2403																
Arg Gln Glu Asn Val Val Phe Val Thr Cys Glu Tyr Asp Asp Thr Val																	
	785							790									
aca gat gtg tat ttg ctt gag gga aaa tat atc aga tta gaa gca tca	2451																
Thr Asp Val Tyr Leu Leu Glu Gly Lys Tyr Ile Arg Leu Glu Ala Ser																	
	800							805									
tcc atc aat gtc aat ctc tca ata gtt tca gaa aaa aat gac aat gct	2499																
Ser Ile Asn Val Asn Leu Ser Ile Val Ser Glu Lys Asn Asp Asn Ala																	
	815							820									
gtc tct aca gaa cca aat agt aca ggg aat cca ttt caa cag aaa ctc	2547																
Val Ser Thr Glu Pro Asn Ser Thr Gly Asn Pro Phe Gln Gln Lys Leu																	
	830							835									
caa aat gaa ttc tct cta cca tcg gat atc gag atg cca ctg caa atg	2595																
Gln Asn Glu Phe Ser Leu Pro Ser Asp Ile Glu Met Pro Leu Gln Met																	
	850							855									
tct aag caa aaa agc aaa tca gga gtg aat ggt agt ttt gct gct ctt	2643																
Ser Lys Gln Lys Ser Lys Ser Gly Val Asn Gly Ser Phe Ala Ala Leu																	
	865							870									
gag ctt tca gaa gct tca gtg gaa tca gct ggt gca aaa gct gct gca	2691																
Glu Leu Ser Glu Ala Ser Val Glu Ser Ala Gly Ala Lys Ala Ala Ala																	
	880							885									
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Cys Arg Thr Leu Ser Val Leu Ala Ser Leu Ser Asn Lys Val Tyr Ser																	
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cca ttt gga tca atg gag gat gcg ctc aag aaa agt gga tca ctg gaa	2835																
Pro Phe Gly Ser Met Glu Asp Ala Leu Lys Lys Ser Gly Ser Leu Glu																	
	930							935									
tcc ttt aca agc ctt cta gaa aag att gaa aca gcc aaa gtc gaa aat	2883																
Ser Phe Thr Ser Leu Leu Glu Lys Ile Glu Thr Ala Lys Val Glu Asn																	
	945							950									



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ctt	tcc	cca	ccg	gag	gag	act	att	ata	ttt	ctc	aaa	aga	atc	ttc	cca		2979
Leu	Ser	Pro	Pro	Glu	Glu	Thr	Ile	Ile	Phe	Leu	Lys	Arg	Ile	Phe	Pro		
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cag	gat	gtc	cgg	ttg	att	gtt	aga	tct	agt	gct	aat	gtg	gag	gat	ttg		3027
Gln	Asp	Val	Arg	Leu	Ile	Val	Arg	Ser	Ser	Ala	Asn	Val	Glu	Asp	Leu		
		990				995				1000					1005		
gct	ggt	atg	tca	gct	gct	ggt	ctc	tat	gat	tca	att	ccc	aat	gtc			3072
Ala	Gly	Met	Ser	Ala	Ala	Gly	Leu	Tyr	Asp	Ser	Ile	Pro	Asn	Val			
				1010					1015					1020			
agt	ctc	atg	gac	cca	tgt	gcc	ttt	gga	gct	gcg	gtt	ggg	aag	gtt			3117
Ser	Leu	Met	Asp	Pro	Cys	Ala	Phe	Gly	Ala	Ala	Val	Gly	Lys	Val			
				1025					1030					1035			
tgg	gct	tct	tta	tac	aca	agg	aga	gcc	atc	cta	agc	cgt	cga	gcc			3162
Trp	Ala	Ser	Leu	Tyr	Thr	Arg	Arg	Ala	Ile	Leu	Ser	Arg	Arg	Ala			
				1040					1045					1050			
gct	ggt	gtt	tat	cag	aga	gac	gcg	aca	atg	gct	gtt	ctt	gtc	caa			3207
Ala	Gly	Val	Tyr	Gln	Arg	Asp	Ala	Thr	Met	Ala	Val	Leu	Val	Gln			
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gaa	ata	ctg	cag	cca	gat	ctc	tcc	ttc	gtg	ctt	cat	act	gtt	tgc			3252
Glu	Ile	Leu	Gln	Pro	Asp	Leu	Ser	Phe	Val	Leu	His	Thr	Val	Cys			
				1070					1075					1080			
ccc	gct	gac	cat	gac	ccc	aag	gtt	gtc	cag	gct	gag	gtc	gcc	cct			3297
Pro	Ala	Asp	His	Asp	Pro	Lys	Val	Val	Gln	Ala	Glu	Val	Ala	Pro			
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ggg	ctg	ggt	gaa	acg	ctt	gct	tca	gga	acc	cgt	ggc	acc	ccg	tgg			3342
Gly	Leu	Gly	Glu	Thr	Leu	Ala	Ser	Gly	Thr	Arg	Gly	Thr	Pro	Trp			
				1100					1105					1110			
agg	ctg	tca	tgt	aac	aaa	ttc	gat	gga	aaa	gtt	gcc	act	ctt	gcc			3387
Arg	Leu	Ser	Cys	Asn	Lys	Phe	Asp	Gly	Lys	Val	Ala	Thr	Leu	Ala			
				1115					1120					1125			
ttt	tca	aat	ttc	agt	gag	gag	atg	gtg	gtg	cac	aac	tct	ggt	cct			3432
Phe	Ser	Asn	Phe	Ser	Glu	Glu	Met	Val	Val	His	Asn	Ser	Gly	Pro			
				1130					1135					1140			
gcc	aat	gga	gaa	gta	att	cgt	ctt	act	gtt	gat	tac	agc	aag	aag			3477
Ala	Asn	Gly	Glu	Val	Ile	Arg	Leu	Thr	Val	Asp	Tyr	Ser	Lys	Lys			
				1145					1150					1155			
cca	ttg	tcg	gtt	gat	aca	acc	ttt	agg	aag	cag	ttt	ggt	cag	cga			3522
Pro	Leu	Ser	Val	Asp	Thr	Thr	Phe	Arg	Lys	Gln	Phe	Gly	Gln	Arg			
				1160					1165					1170			
ctg	gct	gcg	att	ggc	cag	tat	ctg	gag	cag	aag	ttc	ggg	agt	gca			3567
Leu	Ala	Ala	Ile	Gly	Gln	Tyr	Leu	Glu	Gln	Lys	Phe	Gly	Ser	Ala			
				1175					1180					1185			
cag	gat	gtg	gaa	ggt	tgc	ctg	gtt	ggg	aaa	gat	att	ttt	ata	gtg			3612
Gln	Asp	Val	Glu	Gly	Cys	Leu	Val	Gly	Lys	Asp	Ile	Phe	Ile	Val			
				1190					1195					1200			
caa	agc	agg	cca	cag	cca	tag	aagccgaatt	c									3644
Gln	Ser	Arg	Pro	Gln	Pro												
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&lt;210&gt; 4

&lt;211&gt; 1206

&lt;212&gt; PRT

&lt;213&gt; Oryza sativa

&lt;400&gt; 4

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 35 40 45

Cys Arg Gly Arg Ser Ala Ala Ser Ala Ala Glu Arg Thr Lys Glu Lys  
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Lys Arg Arg Asp Ser Ser Lys Gln Pro Leu Val His Leu Gln Val Cys  
 65 70 75 80

Leu Glu His Gln Val Lys Phe Gly Glu His Val Gly Ile Ile Gly Ser  
 85 90 95

Thr Lys Glu Leu Gly Ser Trp Glu Glu Gln Val Glu Leu Glu Trp Thr  
 100 105 110

Thr Asn Gly Trp Val Cys Gln Leu Lys Leu Pro Gly Glu Thr Leu Val  
 115 120 125

Glu Phe Lys Phe Val Ile Phe Leu Val Gly Gly Lys Asp Lys Ile Trp  
 130 135 140

Glu Asp Gly Asn Asn Arg Val Val Glu Leu Pro Lys Asp Gly Lys Phe  
 145 150 155 160

Asp Ile Val Cys His Trp Asn Arg Thr Glu Glu Pro Leu Glu Leu Leu  
 165 170 175

Gly Thr Pro Lys Phe Glu Leu Val Gly Glu Ala Glu Lys Asn Thr Gly  
 180 185 190

Glu Asp Ala Ser Ala Ser Val Thr Phe Ala Pro Glu Lys Val Gln Asp  
 195 200 205

Ile Ser Val Val Glu Asn Gly Asp Pro Ala Pro Glu Ala Glu Ser Ser  
 210 215 220

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Lys Phe Gly Gly Gln Trp Gln Gly Ser Lys Thr Val Phe Met Arg Ser  
 225 230 235 240  
 Asn Glu His Leu Asn Lys Glu Ala Asp Arg Met Trp Asp Thr Thr Gly  
 245 250 255  
 Leu Asp Gly Ile Ala Leu Lys Leu Val Glu Gly Asp Lys Ala Ser Arg  
 260 265 270  
 Asn Trp Trp Arg Lys Leu Glu Val Val Arg Gly Ile Leu Ser Glu Ser  
 275 280 285  
 Phe Asp Asp Gln Ser Arg Leu Gly Ala Leu Val Tyr Ser Ala Ile Tyr  
 290 295 300  
 Leu Lys Trp Ile Tyr Thr Gly Gln Ile Ser Cys Phe Glu Asp Gly Gly  
 305 310 315 320  
 His His Arg Pro Asn Lys His Ala Glu Ile Ser Arg Gln Ile Phe Arg  
 325 330 335  
 Glu Leu Glu Met Met Tyr Tyr Gly Lys Thr Thr Ser Ala Lys Asp Val  
 340 345 350  
 Leu Val Ile Arg Lys Ile His Pro Phe Leu Pro Ser Phe Lys Ser Glu  
 355 360 365  
 Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg Asp Ile Ala His Arg  
 370 375 380  
 Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys His Thr Ile Gln  
 385 390 395 400  
 Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu Ile Ala Thr Glu  
 405 410 415  
 Val Met Leu Ala Arg Ile Thr Lys Thr Pro Gly Glu Tyr Ser Glu Thr  
 420 425 430  
 Phe Val Glu Gln Phe Thr Ile Phe Tyr Ser Glu Leu Lys Asp Phe Phe  
 435 440 445  
 Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys Glu Ser Leu  
 450 455 460  
 Asn Glu Ser Gly Leu Glu Val Leu Ser Ser Phe Val Glu Thr Lys Arg  
 465 470 475 480  
 Ser Leu Asp Gln Val Asp His Ala Glu Asp Leu Asp Lys Asn Asp Thr  
 485 490 495

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

Ile Gln Ile Leu Met Thr Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser  
 500 505 510

Val Leu Met Lys Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Pro Asp  
 515 520 525

Asn Ala Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Ser Leu  
 530 535 540

Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Phe Ile Asn Thr Leu Glu  
 545 550 555 560

Ala Leu Gly Gly Ser Ala Ser Leu Ala Lys Asp Val Ala Arg Asn Thr  
 565 570 575

Thr Leu Trp Asp Thr Thr Leu Asp Ala Leu Val Ile Gly Ile Asn Gln  
 580 585 590

Val Ser Phe Ser Gly Trp Lys Thr Asp Glu Cys Ile Ala Ile Gly Asn  
 595 600 605

Glu Ile Leu Ser Trp Lys Gln Lys Gly Leu Ser Glu Ser Glu Gly Cys  
 610 615 620

Glu Asp Gly Lys Tyr Ile Trp Ser Leu Arg Leu Lys Ala Thr Leu Asp  
 625 630 635 640

Arg Ala Arg Arg Leu Thr Glu Glu Tyr Ser Glu Ala Leu Leu Ser Ile  
 645 650 655

Phe Pro Glu Lys Val Met Val Ile Gly Lys Ala Leu Gly Ile Pro Asp  
 660 665 670

Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Val  
 675 680 685

Phe Gln Val Ser Lys Leu Cys Thr Val Leu Gln Lys Ala Ile Arg Glu  
 690 695 700

Val Leu Gly Ser Thr Gly Trp Asp Val Leu Val Pro Gly Val Ala His  
 705 710 715 720

Gly Thr Leu Met Arg Val Glu Arg Ile Leu Pro Gly Ser Leu Pro Ser  
 725 730 735

Ser Val Lys Glu Pro Val Val Leu Ile Val Asp Lys Ala Asp Gly Asp  
 740 745 750

Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val Gly Val Ile Leu Leu  
 755 760 765

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

Gln Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu  
 770 775 780

Asn Val Val Phe Val Thr Cys Glu Tyr Asp Asp Thr Val Thr Asp Val  
 785 790 795 800

Tyr Leu Leu Glu Gly Lys Tyr Ile Arg Leu Glu Ala Ser Ser Ile Asn  
 805 810 815

Val Asn Leu Ser Ile Val Ser Glu Lys Asn Asp Asn Ala Val Ser Thr  
 820 825 830

Glu Pro Asn Ser Thr Gly Asn Pro Phe Gln Gln Lys Leu Gln Asn Glu  
 835 840 845

Phe Ser Leu Pro Ser Asp Ile Glu Met Pro Leu Gln Met Ser Lys Gln  
 850 855 860

Lys Ser Lys Ser Gly Val Asn Gly Ser Phe Ala Ala Leu Glu Leu Ser  
 865 870 875 880

Glu Ala Ser Val Glu Ser Ala Gly Ala Lys Ala Ala Ala Cys Arg Thr  
 885 890 895

Leu Ser Val Leu Ala Ser Leu Ser Asn Lys Val Tyr Ser Asp Gln Gly  
 900 905 910

Val Pro Ala Ala Phe Arg Val Pro Ser Gly Ala Val Ile Pro Phe Gly  
 915 920 925

Ser Met Glu Asp Ala Leu Lys Lys Ser Gly Ser Leu Glu Ser Phe Thr  
 930 935 940

Ser Leu Leu Glu Lys Ile Glu Thr Ala Lys Val Glu Asn Gly Glu Val  
 945 950 955 960

Asp Ser Leu Ala Leu Glu Leu Gln Ala Ile Ile Ser His Leu Ser Pro  
 965 970 975

Pro Glu Glu Thr Ile Ile Phe Leu Lys Arg Ile Phe Pro Gln Asp Val  
 980 985 990

Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu Asp Leu Ala Gly Met  
 995 1000 1005

Ser Ala Ala Gly Leu Tyr Asp Ser Ile Pro Asn Val Ser Leu Met  
 1010 1015 1020

Asp Pro Cys Ala Phe Gly Ala Ala Val Gly Lys Val Trp Ala Ser  
 1025 1030 1035

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

Leu Tyr Thr Arg Arg Ala Ile Leu Ser Arg Arg Ala Ala Gly Val  
 1040 1045 1050

Tyr Gln Arg Asp Ala Thr Met Ala Val Leu Val Gln Glu Ile Leu  
 1055 1060 1065

Gln Pro Asp Leu Ser Phe Val Leu His Thr Val Cys Pro Ala Asp  
 1070 1075 1080

His Asp Pro Lys Val Val Gln Ala Glu Val Ala Pro Gly Leu Gly  
 1085 1090 1095

Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro Trp Arg Leu Ser  
 1100 1105 1110

Cys Asn Lys Phe Asp Gly Lys Val Ala Thr Leu Ala Phe Ser Asn  
 1115 1120 1125

Phe Ser Glu Glu Met Val Val His Asn Ser Gly Pro Ala Asn Gly  
 1130 1135 1140

Glu Val Ile Arg Leu Thr Val Asp Tyr Ser Lys Lys Pro Leu Ser  
 1145 1150 1155

Val Asp Thr Thr Phe Arg Lys Gln Phe Gly Gln Arg Leu Ala Ala  
 1160 1165 1170

Ile Gly Gln Tyr Leu Glu Gln Lys Phe Gly Ser Ala Gln Asp Val  
 1175 1180 1185

Glu Gly Cys Leu Val Gly Lys Asp Ile Phe Ile Val Gln Ser Arg  
 1190 1195 1200

Pro Gln Pro  
 1205

<210> 5

<211> 12

<212> PRT

<213> Oryza sativa, Arabidopsis thaliana, Sorghum bicolor

<400> 5

Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg  
 1 5 10

<210> 6

<211> 7



## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

&lt;212&gt; PRT

&lt;213&gt; Hordeum vulgare

&lt;400&gt; 6

Ser Arg Arg Val Ala Gly Val  
 1 5

&lt;210&gt; 7

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Hordeum vulgare

&lt;400&gt; 7

Val Glu Ala Glu Val Ala Pro  
 1 5

&lt;210&gt; 8

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Hordeum vulgare

&lt;400&gt; 8

His Thr Val Ser Pro Ser Asp His Asp  
 1 5

&lt;210&gt; 9

&lt;211&gt; 807

&lt;212&gt; DNA

&lt;213&gt; Hordeum vulgare

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(590)

&lt;223&gt;

&lt;400&gt; 9

cg gca cga gga gtc ctc ccc aat gtg agc ctc tcg gac cca acc aac  
 Ala Arg Gly Val Leu Pro Asn Val Ser Leu Ser Asp Pro Thr Asn

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

1	5	10	15	
ttc ggg tct gca gta gcg cgg gtc tgg gcc tcg ctg tac act cgg agg	95			
Phe Gly Ser Ala Val Ala Arg Val Trp Ala Ser Leu Tyr Thr Arg Arg				
20	25	30		
gcc atc ctc agc cgc cgg gtg gct ggc gtg ccc cag agg gac gcc aag	143			
Ala Ile Leu Ser Arg Arg Val Ala Gly Val Pro Gln Arg Asp Ala Lys				
35	40	45		
atg gct gtc ctg gtg cag gag atg ctg gag cca gag cta tcc ttc gtg	191			
Met Ala Val Leu Val Gln Glu Met Leu Glu Pro Glu Leu Ser Phe Val				
50	55	60		
ctc cac acg gtc agc ccc tcg gac cac gac acc agg gtc gtc gag gct	239			
Leu His Thr Val Ser Pro Ser Asp His Asp Thr Arg Val Val Glu Ala				
65	70	75		
gag gtt gcc ccg ggg ctg ggc gag acc ctt gcc gct ggc acc cgc ggc	287			
Glu Val Ala Pro Gly Leu Gly Glu Thr Leu Ala Ala Gly Thr Arg Gly				
80	85	90	95	
acc ccg tgg cgt ctc tcc tgc gac aag ttc gac acc gac gtc gcc acc	335			
Thr Pro Trp Arg Leu Ser Cys Asp Lys Phe Asp Thr Asp Val Ala Thr				
100	105	110		
ctg gcc ttc gcc aac ttc agt gag gag atg cgg gtg ctc ggc tcg ggc	383			
Leu Ala Phe Ala Asn Phe Ser Glu Glu Met Arg Val Leu Gly Ser Gly				
115	120	125		
ccc gcc gac ggc gag gtg gtg agg ctc act gtc gac tac agc acg aag	431			
Pro Ala Asp Gly Glu Val Val Arg Leu Thr Val Asp Tyr Ser Thr Lys				
130	135	140		
ctg ctc tcc gtc gac agg acc ttc agg cag aag ttc ggt cag cgg ctg	479			
Leu Leu Ser Val Asp Arg Thr Phe Arg Gln Lys Phe Gly Gln Arg Leu				
145	150	155		
gcc gcc gtg ggg cag tac ctg gag cag agg ttc ggg agc gcc cag gac	527			
Ala Ala Val Gly Gln Tyr Leu Glu Gln Arg Phe Gly Ser Ala Gln Asp				
160	165	170	175	
gtg gag ggc tgc atg gtc tgg gaa gac atc tac ata gtg cag agc atg	575			
Val Glu Gly Cys Met Val Trp Glu Asp Ile Tyr Ile Val Gln Ser Met				
180	185	190		
cca caa ccg ctg tag agtcatccgt aataatgttt agatgagcaa agttttggtt	630			
Pro Gln Pro Leu				
195				
ggtgaaataa aattttgccga aaatcccatg gcaaaataag tcaggatatga agagcccgcc	690			
tgcgaaacca actgattcta aataatgttt tgaattcgtg tttaaattat gggacgtgaa	750			
caatgatttc cttggaatgc atgcattgta agtttttaaaa aaaaaaaaaa aaaaaaa	807			

&lt;210&gt; 10

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; Hordeum vulgare

&lt;400&gt; 10

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

Ala Arg Gly Val Leu Pro Asn Val Ser Leu Ser Asp Pro Thr Asn Phe  
 1 5 10 15

Gly Ser Ala Val Ala Arg Val Trp Ala Ser Leu Tyr Thr Arg Arg Ala  
 20 25 30

Ile Leu Ser Arg Arg Val Ala Gly Val Pro Gln Arg Asp Ala Lys Met  
 35 40 45

Ala Val Leu Val Gln Glu Met Leu Glu Pro Glu Leu Ser Phe Val Leu  
 50 55 60

His Thr Val Ser Pro Ser Asp His Asp Thr Arg Val Val Glu Ala Glu  
 65 70 75 80

Val Ala Pro Gly Leu Gly Glu Thr Leu Ala Ala Gly Thr Arg Gly Thr  
 85 90 95

Pro Trp Arg Leu Ser Cys Asp Lys Phe Asp Thr Asp Val Ala Thr Leu  
 100 105 110

Ala Phe Ala Asn Phe Ser Glu Glu Met Arg Val Leu Gly Ser Gly Pro  
 115 120 125

Ala Asp Gly Glu Val Val Arg Leu Thr Val Asp Tyr Ser Thr Lys Leu  
 130 135 140

Leu Ser Val Asp Arg Thr Phe Arg Gln Lys Phe Gly Gln Arg Leu Ala  
 145 150 155 160

Ala Val Gly Gln Tyr Leu Glu Gln Arg Phe Gly Ser Ala Gln Asp Val  
 165 170 175

Glu Gly Cys Met Val Trp Glu Asp Ile Tyr Ile Val Gln Ser Met Pro  
 180 185 190

Gln Pro Leu  
 195

<210> 11

<211> 9

<212> PRT

<213> Solanum tuberosum

<400> 11

Pro Glu Glu Cys Lys Ala Val Gly Asn  
 1 5

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

&lt;210&gt; 12

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Solanum tuberosum

&lt;400&gt; 12

Thr Glu Glu Tyr Ser Glu Thr  
1 5

&lt;210&gt; 13

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Solanum tuberosum

&lt;400&gt; 13

Arg Phe Val Asn Ala Val Glu  
1 5

&lt;210&gt; 14

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Solanum tuberosum

&lt;400&gt; 14

Glu Gly Ser Glu Asp Gly Lys  
1 5

&lt;210&gt; 15

&lt;211&gt; 403

&lt;212&gt; DNA

&lt;213&gt; Solanum tuberosum

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(402)

&lt;223&gt;

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

<400> 15  
 gcg gat gct tca ata gct atg cgt cag aag tgg cgt ctc tgc gaa atc 48  
 Ala Asp Ala Ser Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile  
 1 5 10 15

ggg ctt gaa gac tat gca ttt gtt ctt ttg agc agg ttt gtg aat gca 96  
 Gly Leu Glu Asp Tyr Ala Phe Val Leu Leu Ser Arg Phe Val Asn Ala  
 20 25 30

gtt gaa gct cta ggc gga gct gat tgg ctt gca gag aat gta aca gtg 144  
 Val Glu Ala Leu Gly Gly Ala Asp Trp Leu Ala Glu Asn Val Thr Val  
 35 40 45

aaa aac att agt tct tgg aat gat cca att gga gca ctt aca gtt gga 192  
 Lys Asn Ile Ser Ser Trp Asn Asp Pro Ile Gly Ala Leu Thr Val Gly  
 50 55 60

atc caa cag cta ggt ata tct ggt tgg aag ccc gag gaa tgc aaa gct 240  
 Ile Gln Gln Leu Gly Ile Ser Gly Trp Lys Pro Glu Glu Cys Lys Ala  
 65 70 75 80

gtt gga aat gaa ctt ttg tca tgg aaa gaa agg ggt att tca gaa att 288  
 Val Gly Asn Glu Leu Leu Ser Trp Lys Glu Arg Gly Ile Ser Glu Ile  
 85 90 95

gaa ggc agc gaa gat ggt aag act ata tgg gca tta aga cta aaa gcg 336  
 Glu Gly Ser Glu Asp Gly Lys Thr Ile Trp Ala Leu Arg Leu Lys Ala  
 100 105 110

act ctt gat aga agt cga agg tta act gag gag tat tcc gag aca ctt 384  
 Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu Thr Leu  
 115 120 125

ctc caa ata ttc cct gaa a 403  
 Leu Gln Ile Phe Pro Glu  
 130

<210> 16

<211> 134

<212> PRT

<213> Solanum tuberosum

<400> 16

Ala Asp Ala Ser Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile  
 1 5 10 15

Gly Leu Glu Asp Tyr Ala Phe Val Leu Leu Ser Arg Phe Val Asn Ala  
 20 25 30

Val Glu Ala Leu Gly Gly Ala Asp Trp Leu Ala Glu Asn Val Thr Val  
 35 40 45

Lys Asn Ile Ser Ser Trp Asn Asp Pro Ile Gly Ala Leu Thr Val Gly  
 50 55 60

Ile Gln Gln Leu Gly Ile Ser Gly Trp Lys Pro Glu Glu Cys Lys Ala

BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25  
 65 70 75 80

Val Gly Asn Glu Leu Leu Ser Trp Lys Glu Arg Gly Ile Ser Glu Ile  
 85 90 95

Glu Gly Ser Glu Asp Gly Lys Thr Ile Trp Ala Leu Arg Leu Lys Ala  
 100 105 110

Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu Thr Leu  
 115 120 125

Leu Gln Ile Phe Pro Glu  
 130

<210> 17

<211> 7

<212> PRT

<213> Sorghum bicolor

<400> 17

Asp Gly Gly His His Arg Pro  
 1 5

<210> 18

<211> 8

<212> PRT

<213> Sorghum bicolor

<400> 18

Asp Ala Pro Asp Ser Ala Ile Ala  
 1 5

<210> 19

<211> 9

<212> PRT

<213> Sorghum bicolor

<400> 19

Ile Pro Glu Asn Ser Val Arg Thr Tyr  
 1 5

<210> 20



## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

<211> 6  
 <212> PRT  
 <213> Sorghum bicolor

<400> 20  
 Val Asn Lys Ala Asp Gly  
 1 5

<210> 21  
 <211> 1526  
 <212> DNA  
 <213> Sorghum bicolor

<220>  
 <221> CDS  
 <222> (2)..(1525)  
 <223>

<400> 21  
 g cac gag gct gaa tat gtt cat gat cag agt cac ctg gag gct ctt aca 49  
 His Glu Ala Glu Tyr Val His Asp Gln Ser His Leu Glu Ala Leu Thr  
 1 5 10 15  
 tat tct gca ata tat cta aag tgg ata tat act ggt caa ata cca tgc 97  
 Tyr Ser Ala Ile Tyr Leu Lys Trp Ile Tyr Thr Gly Gln Ile Pro Cys  
 20 25 30  
 ttt gag gat ggt ggt cac cat cga ccc aat aaa cat gct gag ata tcc 145  
 Phe Glu Asp Gly Gly His His Arg Pro Asn Lys His Ala Glu Ile Ser  
 35 40 45  
 agg caa att ttt cgt gaa att gaa agg ata tac tat ggg gaa aac aca 193  
 Arg Gln Ile Phe Arg Glu Ile Glu Arg Ile Tyr Tyr Gly Glu Asn Thr  
 50 55 60  
 tca gct cag gat ttg ctt gtg ata cgc aag att cat cct tgt cta cct 241  
 Ser Ala Gln Asp Leu Leu Val Ile Arg Lys Ile His Pro Cys Leu Pro  
 65 70 75 80  
 tca ttt aaa tca gaa ttt act gcc tct gtt cct cta aca cga att cgt 289  
 Ser Phe Lys Ser Glu Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg  
 85 90 95  
 gat att gct cat cgt aat gac ata cca cat gat ctc aag caa gaa atc 337  
 Asp Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile  
 100 105 110  
 aag cat act ata caa aac aag ctt cac cgg aat gcc ggc cct gag gat 385  
 Lys His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp  
 115 120 125

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

ctt att gct act gaa gcc atg ctt gct agg att act aag act cct gga 433  
 Leu Ile Ala Thr Glu Ala Met Leu Ala Arg Ile Thr Lys Thr Pro Gly  
 130 135 140

gag tac agt gaa gct ttt gtt gaa caa ttc aag acg ttt tat agt gaa 481  
 Glu Tyr Ser Glu Ala Phe Val Glu Gln Phe Lys Thr Phe Tyr Ser Glu  
 145 150 155 160

tta aaa gat ttc ttc aat gct ggc agc cta ctg gag caa gtg caa tcc 529  
 Leu Lys Asp Phe Phe Asn Ala Gly Ser Leu Leu Glu Gln Val Gln Ser  
 165 170 175

atc gag caa tct ttg gat gag tct ggc tta gaa gct ctc tca tcc ttt 577  
 Ile Glu Gln Ser Leu Asp Glu Ser Gly Leu Glu Ala Leu Ser Ser Phe  
 180 185 190

ctg aaa acc aaa aag aat tta gac caa ctg gaa gat gca aaa gat ttg 625  
 Leu Lys Thr Lys Lys Asn Leu Asp Gln Leu Glu Asp Ala Lys Asp Leu  
 195 200 205

gat gaa aat ggt ggc gtt caa gtt ttg ttg aaa gcc ttg ctg tcg tta 673  
 Asp Glu Asn Gly Gly Val Gln Val Leu Leu Lys Ala Leu Leu Ser Leu  
 210 215 220

tct tat cta aga tca att cta atg aag ggt ctg gaa agt ggc ctt aga 721  
 Ser Tyr Leu Arg Ser Ile Leu Met Lys Gly Leu Glu Ser Gly Leu Arg  
 225 230 235 240

aat gat gct cca gat agt gct att gca atg cga caa aag tgg cgt ctt 769  
 Asn Asp Ala Pro Asp Ser Ala Ile Ala Met Arg Gln Lys Trp Arg Leu  
 245 250 255

tgt gag atc ggg ctt gaa gat tat tcg ttt gta ttg tta agt aga tac 817  
 Cys Glu Ile Gly Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Tyr  
 260 265 270

atc aat gct ctt gaa gct ttg ggt gga tca gct tca ctt gca gag ggt 865  
 Ile Asn Ala Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Glu Gly  
 275 280 285

ctt cct aca aat aca agt cta tgg gat gat gcc ctt gat gcc ctt gtc 913  
 Leu Pro Thr Asn Thr Ser Leu Trp Asp Asp Ala Leu Asp Ala Leu Val  
 290 295 300

att ggc ata aat caa gtt agc ttt tca gga tgg aaa cca aat gag tgt 961  
 Ile Gly Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Pro Asn Glu Cys  
 305 310 315 320

act gca ata gtg aat gag ctt ctt tct tgg aag cag aaa ggt cta tct 1009  
 Thr Ala Ile Val Asn Glu Leu Leu Ser Trp Lys Gln Lys Gly Leu Ser  
 325 330 335

gaa ttt gaa ggc agt gag gat gga aag tat att tgg gca ctg aga ctc 1057  
 Glu Phe Glu Gly Ser Glu Asp Gly Lys Tyr Ile Trp Ala Leu Arg Leu  
 340 345 350

aaa gcc act ctt gat aga tca cga aga cta aca gaa gaa tac tct gaa 1105  
 Lys Ala Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu  
 355 360 365

gca ctt ctt tct ata ttt cct gaa aaa gtc aag gtt ctt ggg aaa gcc 1153  
 Ala Leu Leu Ser Ile Phe Pro Glu Lys Val Lys Val Leu Gly Lys Ala  
 370 375 380

ctt gga ata cca gag aac agt gtg aga aca tac act gaa gct gaa att 1201  
 Leu Gly Ile Pro Glu Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile  
 385 390 395 400

BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

cgt gct ggt gtt att ttt cac gtc tcg	aaa ctt tgc act gta ctt tta	1249
Arg Ala Gly Val Ile Phe His Val Ser	Lys Leu Cys Thr Val Leu Leu	
405	410 415	
aaa gca act cga gca gtt ctt gga tcg	tct gtg tgg gat gtt ctt gtt	1297
Lys Ala Thr Arg Ala Val Leu Gly Ser	Ser Val Trp Asp Val Leu Val	
420	425 430	
cct gga gtg gcc cat gga gcc ttg ata	cag gtt gaa aga ata gct cct	1345
Pro Gly Val Ala His Gly Ala Leu Ile	Gln Val Glu Arg Ile Ala Pro	
435	440 445	
gga tca ttg cca tca tcc atc aaa gaa	cct gtc gtg cta gtt gta aac	1393
Gly Ser Leu Pro Ser Ser Ile Lys Glu	Pro Val Val Leu Val Val Asn	
450	455 460	
aag gct gat gga gat gaa gag gtc aaa	gct gct ggg gat aac ata gtg	1441
Lys Ala Asp Gly Asp Glu Glu Val Lys	Ala Ala Gly Asp Asn Ile Val	
465	470 475 480	
ggt gtt att ctt cta caa gaa tta cct	cac cta tca cat ctt ggt gtt	1489
Gly Val Ile Leu Leu Gln Glu Leu Pro	His Leu Ser His Leu Gly Val	
485	490 495	
aga gct cgt caa gag aaa gtt gta ttt	gta act tgc g	1526
Arg Ala Arg Gln Glu Lys Val Val Phe	Val Thr Cys	
500	505	

&lt;210&gt; 22

&lt;211&gt; 508

&lt;212&gt; PRT

&lt;213&gt; sorghum bicolor

&lt;400&gt; 22

His Glu Ala Glu Tyr Val His Asp Gln Ser His Leu Glu Ala Leu Thr	1	5	10	15
Tyr Ser Ala Ile Tyr Leu Lys Trp Ile Tyr Thr Gly Gln Ile Pro Cys	20	25	30	
Phe Glu Asp Gly Gly His His Arg Pro Asn Lys His Ala Glu Ile Ser	35	40	45	
Arg Gln Ile Phe Arg Glu Ile Glu Arg Ile Tyr Tyr Gly Glu Asn Thr	50	55	60	
Ser Ala Gln Asp Leu Leu Val Ile Arg Lys Ile His Pro Cys Leu Pro	65	70	75	80
Ser Phe Lys Ser Glu Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg	85	90	95	
Asp Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile	100	105	110	

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

Lys His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp  
115 120 125

Leu Ile Ala Thr Glu Ala Met Leu Ala Arg Ile Thr Lys Thr Pro Gly  
130 135 140

Glu Tyr Ser Glu Ala Phe Val Glu Gln Phe Lys Thr Phe Tyr Ser Glu  
145 150 155 160

Leu Lys Asp Phe Phe Asn Ala Gly Ser Leu Leu Glu Gln Val Gln Ser  
165 170 175

Ile Glu Gln Ser Leu Asp Glu Ser Gly Leu Glu Ala Leu Ser Ser Phe  
180 185 190

Leu Lys Thr Lys Lys Asn Leu Asp Gln Leu Glu Asp Ala Lys Asp Leu  
195 200 205

Asp Glu Asn Gly Gly Val Gln Val Leu Leu Lys Ala Leu Leu Ser Leu  
210 215 220

Ser Tyr Leu Arg Ser Ile Leu Met Lys Gly Leu Glu Ser Gly Leu Arg  
225 230 235 240

Asn Asp Ala Pro Asp Ser Ala Ile Ala Met Arg Gln Lys Trp Arg Leu  
245 250 255

Cys Glu Ile Gly Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Tyr  
260 265 270

Ile Asn Ala Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Glu Gly  
275 280 285

Leu Pro Thr Asn Thr Ser Leu Trp Asp Asp Ala Leu Asp Ala Leu Val  
290 295 300

Ile Gly Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Pro Asn Glu Cys  
305 310 315 320

Thr Ala Ile Val Asn Glu Leu Leu Ser Trp Lys Gln Lys Gly Leu Ser  
325 330 335

Glu Phe Glu Gly Ser Glu Asp Gly Lys Tyr Ile Trp Ala Leu Arg Leu  
340 345 350

Lys Ala Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu  
355 360 365

Ala Leu Leu Ser Ile Phe Pro Glu Lys Val Lys Val Leu Gly Lys Ala  
370 375 380

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

Leu Gly Ile Pro Glu Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile  
 385 390 395 400

Arg Ala Gly Val Ile Phe His Val Ser Lys Leu Cys Thr Val Leu Leu  
 405 410 415

Lys Ala Thr Arg Ala Val Leu Gly Ser Ser Val Trp Asp Val Leu Val  
 420 425 430

Pro Gly Val Ala His Gly Ala Leu Ile Gln Val Glu Arg Ile Ala Pro  
 435 440 445

Gly Ser Leu Pro Ser Ser Ile Lys Glu Pro Val Val Leu Val Val Asn  
 450 455 460

Lys Ala Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val  
 465 470 475 480

Gly Val Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val  
 485 490 495

Arg Ala Arg Gln Glu Lys Val Val Phe Val Thr Cys  
 500 505

<210> 23

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 23

Arg Asn Asp Ala Thr Asp Ala Gly  
 1 5

<210> 24

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 24

Gly Asn Thr Ser Val Trp Asp Asp  
 1 5

<210> 25

<211> 509

## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

&lt;212&gt; DNA

&lt;213&gt; Triticum aestivum

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(507)

&lt;223&gt;

&lt;400&gt; 25

aat	ggc	gct	ttt	gtc	gaa	caa	ttt	caa	ata	ttt	tat	agc	gaa	cta	aaa	48
Asn	Gly	Ala	Phe	Val	Glu	Gln	Phe	Gln	Ile	Phe	Tyr	Ser	Glu	Leu	Lys	
1				5					10					15		

gac	ttc	ttt	aat	gcc	ggc	agc	ctg	ttt	gaa	caa	ctg	gaa	tcc	atc	aag	96
Asp	Phe	Phe	Asn	Ala	Gly	Ser	Leu	Phe	Glu	Gln	Leu	Glu	Ser	Ile	Lys	
			20					25					30			

gaa	tct	ttg	aat	gat	tct	ggc	tta	gaa	gca	ctg	tca	tca	ttt	gtc	aaa	144
Glu	Ser	Leu	Asn	Asp	Ser	Gly	Leu	Glu	Ala	Leu	Ser	Ser	Phe	Val	Lys	
		35					40					45				

acc	aaa	cag	agt	ttg	gac	caa	gtg	gat	gct	gcg	aac	att	caa	gtt	gtg	192
Thr	Lys	Gln	Ser	Leu	Asp	Gln	Val	Asp	Ala	Ala	Asn	Ile	Gln	Val	Val	
	50					55					60					

atg	aag	acc	ttg	cag	tca	ttg	tct	tca	ttg	aga	tca	gtt	cta	atg	aag	240
Met	Lys	Thr	Leu	Gln	Ser	Leu	Ser	Ser	Leu	Arg	Ser	Val	Leu	Met	Lys	
65					70					75					80	

ggc	ctt	gaa	agt	ggc	ctt	aga	aat	gat	gcg	act	gat	gcc	ggt	ata	gca	288
Gly	Leu	Glu	Ser	Gly	Leu	Arg	Asn	Asp	Ala	Thr	Asp	Ala	Gly	Ile	Ala	
				85					90					95		

atg	cga	caa	aag	tgg	cgc	ctt	tgt	gag	att	ggt	ctt	gag	gat	tat	tct	336
Met	Arg	Gln	Lys	Trp	Arg	Leu	Cys	Glu	Ile	Gly	Leu	Glu	Asp	Tyr	Ser	
			100					105					110			

ttt	gtt	ttg	tta	agc	aga	tat	atc	aat	ggt	ctt	gaa	gct	tca	ggt	gga	384
Phe	Val	Leu	Leu	Ser	Arg	Tyr	Ile	Asn	Gly	Leu	Glu	Ala	Ser	Gly	Gly	
		115					120					125				

tca	gct	tca	ctt	gca	caa	tgt	gtg	gct	gga	aat	aca	agt	gta	tgg	gac	432
Ser	Ala	Ser	Leu	Ala	Gln	Cys	Val	Ala	Gly	Asn	Thr	Ser	Val	Trp	Asp	
	130					135					140					

gat	acc	ctt	gat	gcc	ctt	att	att	ggc	gtc	aat	caa	gtt	agc	ttt	tca	480
Asp	Thr	Leu	Asp	Ala	Leu	Ile	Ile	Gly	Val	Asn	Gln	Val	Ser	Phe	Ser	
145					150					155					160	

ggt	tgg	aag	cca	gag	gaa	tgc	att	gct	at							509
Gly	Trp	Lys	Pro	Glu	Glu	Cys	Ile	Ala								
				165												

&lt;210&gt; 26

&lt;211&gt; 169

&lt;212&gt; PRT



## BCS 04-501-PCT\_SEQUENZPROTOKOLL\_Verfahren zur Identifizierung.ST25

&lt;213&gt; Triticum aestivum

&lt;400&gt; 26

Asn Gly Ala Phe Val Glu Gln Phe Gln Ile Phe Tyr Ser Glu Leu Lys  
1 5 10 15

Asp Phe Phe Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys  
20 25 30

Glu Ser Leu Asn Asp Ser Gly Leu Glu Ala Leu Ser Ser Phe Val Lys  
35 40 45

Thr Lys Gln Ser Leu Asp Gln Val Asp Ala Ala Asn Ile Gln Val Val  
50 55 60

Met Lys Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser Val Leu Met Lys  
65 70 75 80

Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Thr Asp Ala Gly Ile Ala  
85 90 95

Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp Tyr Ser  
100 105 110

Phe Val Leu Leu Ser Arg Tyr Ile Asn Gly Leu Glu Ala Ser Gly Gly  
115 120 125

Ser Ala Ser Leu Ala Gln Cys Val Ala Gly Asn Thr Ser Val Trp Asp  
130 135 140

Asp Thr Leu Asp Ala Leu Ile Ile Gly Val Asn Gln Val Ser Phe Ser  
145 150 155 160

Gly Trp Lys Pro Glu Glu Cys Ile Ala  
165